

PAT-NO: JP362012827A

DOCUMENT-IDENTIFIER: JP 62012827 A

TITLE: DETECTOR FOR COMBUSTION PRESSURE OF ENGINE

PUBN-DATE: January 21, 1987

INVENTOR-INFORMATION:

NAME

SUZUKI, KIYOMITSU

MIKI, MASAYUKI

AMANO, MATSUO

SASAYAMA, TAKAO

ASSIGNEE-INFORMATION:

NAME

HITACHI LTD

COUNTRY

N/A

APPL-NO: JP60150240

APPL-DATE: July 10, 1985

INT-CL (IPC): G01L023/06

ABSTRACT:

**PURPOSE:** To detect the combustion pressure accurately even under the bad environment due to a temperature variation or the like by correcting the combustion pressure based on the output of a photodetector under a specific engine state.

**CONSTITUTION:** A learning correcting part 7 consists of a light emitting element 8 such as a LED, a photodetecting element 9 such as a silicon-pin photodiode and a signal processing circuit 10, and the quantity of light emission of the element 8 is controlled based on a signal of a bottom dead center sensor 11. On the other hand, the circuit 10 transmits the output

voltage  $E_0$  in proportion to the combustion pressure  $P$  to a microcomputer 12 for controlling an engine. Further, since a silicone diaphragm in a detection part 5 is stuck and fixed on a glass pipe having an almost similar thermal expansion coefficient, a variation of a gap ( $l$ ) between the end face of an optical fiber and the silicone diaphragm is made an exceedingly small amount even if the temperature of the detection part 5 is changed in a wide range by the combustion temperature of the engine. Accordingly, the highly accurate measurement of the combustion pressure  $P$  with little influence by the temperature is made possible.

COPYRIGHT: (C)1987,JPO&Japio